



## FIRST REPORT OF BRASSY CHUB, *KYPHOSUS VAIGIENSIS* (QUOY AND GAIMARD, 1825) FROM NORTHERN EAST COAST OF INDIA

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### INTRODUCTION

Sea chubs belonging to the family Kyphosidae generally inhabit rocky zones and coral reefs of tropical and temperate marine waters worldwide (Sakai and Nakabo, 1995). There are six sub-families, sixteen genera and about 45 species belonging to the family Kyphosidae (Nelson, 2006). During local survey around Digha coast authors collected 3 examples of fishes identified as brassy chubs, *Kyphosus vaigiensis* (Quoy and Gaimard, 1825). This species belongs to sub-family Kyphosinae (Rudderfishes) and widely distributed in Indo-Pacific Region (Clements, 1997). Brassy chubs are as taken commercially important only occasionally in India (Talwar & Kacker, 1884). Various studies have been carried out to study the fish faunal diversity of Northern east coast (West Bengal, Odisha & Andhra Pradesh) of India (Manna and Goswami, 1985; Goswami, 1992; Talwar *et al.*, 1992; Barman *et al.*, 2004; Chatterjee *et al.* 2000; Das *et al.*, 2007; Mohapatra *et al.*, 2007; Barman *et al.*, 2007). There was no report on the occurrence of *Kyphosus vaigiensis* from the northern east Coast of India. There is no fish from the family Kyphosidae was reported from the West Bengal coast and only *Kyphosus cinerascens* (Forsskål, 1775) from the family Kyphosidae was reported from Odisha (Barman *et al.*, 2007) and Andhra Pradesh coast (Barman *et al.*, 2004).

### MATERIALS AND METHOD

Three specimens (1ex, MARC/ZSI/F2471, Col.10.06.12 & 2ex, MARC/ZSI/F2477, Col. 12.06.12) of *Kyphosus vaigiensis* were collected (SL: 153-167 mm) from Digha Mohona (21°37.843'N, 87°32.827'E) by using trawl nets. Photographs were taken on the field and morphometric measurements were made from specimens preserved in 10% formalin. Morphometric characters were measured based on Hubbs and Lagler (1964). Measurements were taken with digital calipers to 0.1 mm. Abbreviations used for meristic character include: D, dorsal fin; P, pectoral fin; V, ventral fin, C, caudal fin; SL, standard length. The specimens are deposited in the laboratory of Marine Aquarium and Regional Centre, Zoological Survey of India, Digha.

### RESULT AND DISCUSSION

#### *Kyphosus vaigiensis* (Quoy and Gaimard, 1825)

1825. *Pimelepterus vaigiensis* Quoy & Gaimard, : 386, pi. 62, fig. 4 (type locality Waigeo

Island, Indonesia).

1984. *Kyphosus vaigiensis*: Talwar & Kacker Commercial sea fishes of India, 695.

**Diagnosis** : D: XI, 14; A: III, 13; P: 19; V: I, 5. Body compressed and elliptical, dorsal and ventral profiles equally convex. Head small with small blunt snout, shorter than eyes; interorbital space convex. Two pairs of nostrils before eyes; anterior rounded and posterior elongated.



Fig. 1. *Kyphosus vaigiensis* (Quoy and Gaimard, 1825)

Opercle with two weak spines; maxilla reaching anterior margin of eyes. Mouth terminal with horizontal root of teeth in jaws; single outer row of incisor like teeth on both jaws and very narrow inner bands of small, canine like teeth on both jaws; bands of fine villiform teeth on vomer, palatines, pterigoids and tongue. Scales ctenoid and non deciduous, present on body, head, maxilla, soft rays part of dorsal and anal fins and proximal part of caudal fin; snout, premaxilla and lower jaw without scales. Dorsal fin with convex spinous portions and straight soft rays portions; dorsal origin above pelvic fin origin; 5<sup>th</sup> to 7<sup>th</sup> dorsal spines are strongest and long. Anal fin origin slightly posterior to mid body; 3<sup>rd</sup> anal spine longest. Pectoral fin bluntly pointed posteriorly; pelvic fin slightly shorter than pectoral fin and originating slightly little behind pectoral fin. Gill rakers in upper limb 9 and in lower limb 22-23; total gill rakers 31-32. Pored scales on lateral line 53; scales above lateral line 12; scales below lateral line 20; longitudinal scales series 59-60; cheek scales 16. Body bluish brown, darker dorsally and become pale ventrally. Flank with several yellowish brown longitudinal lines. Head with two yellow oblique stripes; one below eye and other behind eye. Dorsal and anal fins dark brown with black leading edge. Pectoral fin silvery near base and distally slightly darker; a black spot present near pectoral fin base. Details of morphometric data and meristic counts are given in Table 1.

Table 1 : Morphometric data of *Kyphosus vaigiensis* (Quoy and Gaimard, 1825).

Morphometry	% of Standard Length
Head length	28.74-29.41
Body depth	48.36-48.73
Eye diameter	7.05-7.21
Interorbital space	10.63-10.89
Pectoral fin length	19.28-20.25
Ventral fin length	18.95-20.05
Caudal peduncle length	17.64-20.95
Caudal peduncle depth	12.41-12.87
Pre dorsal length	41.83-45.56
Pre anal length	62.02-62.41
Snout length	8.4-8.9
Caudal fin length	28.48-29.41

**Distribution :** This species is broadly distributed in the Indo-Pacific region, include the Red Sea and South Africa waters, absent in eastern Pacific (Sakai and Nakabo, 1995); New Zealand (Clement, 1997); Samoa, Tahiti (Weber & Beaufort, 1936) east to the Hawaiian, Tuamoto, and Rapa islands (Froese & Pauly, 2012). In Indian coastal water this species was reported from Andaman and Nicobar Islands (Rao *et al.*, 2000); Laccadive Islands (Jones & Kumaran, 1980; Tamil Nadu coast (Barman *et al.*, 2011).

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## REFERENCES

- Barman, R.P., Kar S. & Mukherjee P., 2004: Marine and estuaries fishes, *Fauna of Andhra Pradesh, State fauna Series*, 8 (Part- 2) (Mammals and Marine and Estuaries fishes). 257-258, Published by Zool. Surv. India
- Barman, R.P., Mishra, S.S., Kar, S., Mukherjee, P. and Saren, S.C., 2007. Marine and estuarine fish fauna of Orissa. *Rec. Zool. Surv. India, Occ. Paper No. 260*:131-132.
- Barman, R.P., Mishra, S.S., Kar, S., Mukherjee, P. & Saren, S.C., 2011. Marine and Estuarine Fish. *Fauna of Tamil Nadu, State Fauna Series*, 17 (Part-2): 377.
- Chatterjee, T.K., Ramakrishna, Talukdar, S. & Mukherjee, A.K., 2000. Fish and fisheries of Digha coast of West Bengal. *Rec. zool. Surv. Ind. Occ. Paper*, 188: 1-87.
- Clements, K. D., 1997. *Kyphosus vaigiensis* (Kyphosidae), a new fish record from northeastern New Zealand. *Journal of Royal Society of New Zealand*, 27 (2): 219-221.
- Das, P., De, S.P., Bhowmik, R.M., Pandit, P.K., Sengupta, R., Nandi, A.C., Thakurta, S.C. and Saha, S., 2007. Piscine diversity of West Bengal. *Fishing Chimes*, 27 (5): 15-28.
- Froese, R. and Pauly, D., 2012. *Fishbase* 2012. World Wide Web electronic publication. Online version: [www.fishbase.org](http://www.fishbase.org).
- Gosami, B.C.B., 1992. Marine fauna of Digha coast of West Bengal, India. *J. mar. biol. Ass. India*, 34(1-2): 115-137.
- Hubbs, C.L. & Lagler K.L., 1964. *Fishes of the Great Lakes Region.*, Ann Arbor. xv+213., 44 pls, Published by Univ. Michigan Press.
- Jones, S. & Kumaran, M., 1980. Fishes of the Laccadive Archipelago. *The Nature Conservation and Aquatic Sciences Service, Trivandrum, Kerala*: 760.
- Manna, B. & Goswami, B.C.B., 1985. A checklist of merine & estuarine fishes of Digha, West Bengal, India. *Mahasagar*, 18(4) : 489-499.
- Mohapatra, A., Mohanty, R.K., Mohanty, S.K., Bhatta, K.S. & Das, N.R. 2007. Fisheries enhancement and biodiversity assessment of fish, prawn and mud crab in Chilika lagoon through hydrological intervention. *Wetlands Ecol. Manage.*, 15: 229-251.
- Nelson, J.S., 2006. *Fishes of the World* (4<sup>th</sup> Ed.): 1-601, Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
- Rao, D.V., Kamla Devi & Rajan, P.T., 2000. An account of Ichthyofauna of Andaman & Nicobar Islands, Bay of Bengal, *Rec. zool. Surv. India, Occ. Paper No.*, 178: 224-225.
- Sakai, K. & Nakabo, T., 1995. Taxonomic review of the Indo-Pacific Kyphosid fish, *Kyphosus vaigiensis* (Quoy and Gaimard, 1825). *Jpn. J. Ichthyol.*, 42: 61-70.
- Talwar, P.K. & Kacker R.K., 1984. *Commercial Sea Fishes of India*: 1-997, Published by Zoological Survey of India.
- Talwar, P.K., Mukherjee, P., Saha, D., Paul, S.N. and Kar, S., 1992. Marine and estuarine fishes, *In, State Fauna Series: Fauna of West Bengal, Part-2*: 243-342.
- Weber, M. and Beaufort, L. F., 1936. *The fishes of the Indo-Australian Archipelago, Vol. 7*, 607. Published by *Print times, Pataudi house, Daryaganj, New Delhi*.